



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0420; Directorate Identifier 2011-NM-241-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes. This proposed AD was prompted by a report of a disbonded doubler and a skin crack in section 41 of the fuselage, and multiple reports of cracked or missing fastener heads. This proposed AD would require repetitive inspections for cracking of the fuselage skin, discrepant fasteners, and for disbonds at the doublers; and related investigative and corrective actions if necessary. For certain airplanes, this proposed AD would also require a terminating repair for repair doublers. We are proposing this AD to prevent rapid decompression and loss of structural integrity of the airplane due to such disbonding and subsequent cracking of the skin panels.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: Nathan.P.Weigand@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0420; Directorate Identifier 2011-NM-241-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received a report of a disbonded doubler and a 10-inch crack found at 21,800 total flight cycles in the skin in section 41 of the fuselage; and two reports of cracked or missing fastener heads found on four airplanes. Cracked and/or missing fastener heads were found at station (STA) 480 and STA 520 between stringers S-8 and S-10 on airplanes with 10,529 and 10,531 total flight cycles. Also, missing fastener heads were found between STA 400 and 420 at stringer S-24AL on airplanes with 28,153 and 28,319 total flight cycles.

Fatigue cracks can start in the body skin at fastener holes where internal doublers have disbonded from the skin panel. Fatigue cracks that are not found and repaired could extend with continued use of the airplane and could cause a rapid decompression and loss of structural integrity.

Relevant Service Information

We reviewed Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2013-0420.

Terminating Action for Other ADs

- Accomplishing the requirements of this proposed AD terminates the requirements of paragraphs (f), (g), and (h) of AD 2006-20-02, Amendment 39-14771 (71 FR 56861, September 28, 2006).
- Accomplishing the requirements of this proposed AD terminates the requirements of paragraphs (f), (k), and (l) of AD 2006-24-02, Amendment 39-14831 (71 FR 67445, November 22, 2006).
- Accomplishing the requirements of this proposed AD terminates the requirements of paragraphs (f) and (i) of AD 2006-24-05, Amendment 39-14834 (71 FR 68434, November 27, 2006).

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the Proposed AD and the Service Information".

The phrase "related investigative actions" might be used in this proposed AD. "Related investigative actions" are follow-on actions that: (1) are related to the primary

actions, and (2) are actions that further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

In addition, the phrase “corrective actions” might be used in this proposed AD. “Corrective actions” are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between the Proposed AD and the Service Information

The service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

Costs of Compliance

We estimate that this proposed AD affects 98 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	878 work-hours X \$85 per hour = \$74,630 per inspection cycle	\$0	\$74,630 per inspection cycle	\$7,313,740 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2013-0420; Directorate Identifier 2011-NM-241-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

This AD affects AD 2006-20-02, Amendment 39-14771 (71 FR 56861, September 28, 2006); AD 2006-24-02, Amendment 39-14831 (71 FR 67445, November 22, 2006); and AD 2006-24-05, Amendment 39-14834 (71 FR 68434, November 27, 2006).

(c) Applicability

This AD applies to The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes; certificated in any category; as identified in Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by a disbonded doubler and a skin crack in section 41 of the fuselage, and multiple reports of cracked or missing fastener heads. We are issuing this AD to prevent rapid decompression and loss of structural integrity of the airplane due to such disbonding and subsequent cracking of the skin panels.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Repetitive Skin Panel, Fastener, and Doubler Inspection

At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, except as required by paragraphs (i)(1) and (i)(3) of this AD: Do the applicable inspections (including detailed, high frequency eddy current (HFEC), and low frequency eddy current (LFEC)) for any cracking of the fuselage skin, for discrepant fasteners, and for disbonds at the doublers; and do all applicable related investigative and corrective actions in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, except as provided by paragraph (i)(2) of this AD. Repeat the applicable inspections thereafter at intervals not to exceed those specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012. Do all applicable related investigative and corrective actions at the applicable time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012. Options provided in Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2011, for accomplishing the disbond inspection are acceptable for the corresponding requirements

of this paragraph provided that the inspection is done at the applicable times in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2011.

(1) Replacing a skin panel, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, is an acceptable alternative to doing the service repair manual (SRM) skin panel repairs and the repetitive skin panel inspections specified in tables 1, 2, and 3 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, for only the skin panel that has been replaced.

(2) Accomplishment of the terminating repair identified in tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, terminates the repetitive inspections identified in tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, for only the area on which the terminating repair has been done.

(h) Terminating Action for Repairs

For airplanes identified in tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012: At the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, do the terminating action for the repair doubler, including doing an open hole HFEC inspection for skin cracks at the fastener holes common to the inspection area and an inspection for disbond of the internal doubler; and as applicable, replacing the existing external repair doubler with a new extended external repair doubler, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, except as provided by paragraph (i)(2) of this AD. Accomplishment of the terminating action identified in tables 4 and 5 of paragraph 1.E., "Compliance," of

Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, terminates the repetitive inspections identified in tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, for only areas on which the terminating action has been done.

(i) Exceptions to Certain Service Information Instructions

This paragraph specifies exceptions to certain instructions in Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012.

(1) Where Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, specifies a compliance time after the "original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, specifies to contact Boeing for special repair instructions, this AD requires using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(3) The Condition column of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2747, Revision 2, dated February 22, 2012, refers to certain conditions "as of the original issue date of this service bulletin." This AD, however, applies to the airplanes with the specified condition as of the effective date of this AD.

(j) Credit for Previous Actions

This paragraph provides credit for the actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 747-53A2747, Revision 1, dated October 12, 2011, which is not incorporated by reference in this AD.

(k) Terminating Action for Other ADs

(1) Accomplishing the requirements of this AD terminates the requirements of paragraphs (f), (g), and (h) of AD 2006-20-02, Amendment 39-14771 (71 FR 56861, September 28, 2006).

(2) Accomplishing the requirements of this AD terminates the requirements of paragraphs (f), (k), and (l) of AD 2006-24-02, Amendment 39-14831 (71 FR 67445, November 22, 2006).

(3) Accomplishing the requirements of this AD terminates the requirements of paragraphs (f) and (i) of AD 2006-24-05, Amendment 39-14834 (71 FR 68434, November 27, 2006).

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to:

9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must

meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(m) Related Information

(1) For more information about this AD, contact Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: Nathan.P.Weigand@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, WA, on May 8, 2013.

Jeffrey E. Duven,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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